

REMARKS

Claim 13 has been cancelled without prejudice.

Claims 1-3, 5-12, and 14-18 are active.

The claimed fuel composition has a propoxylate additive of formula I, in which the number of propylene oxide repeats units,  $n$ , is an integer of from 14 to 18 (except for the fuel compositions of Claims 9 and 16-18, in which  $n$  is 15). In addition, the propoxylate is end-capped with a group  $R^1$ , which is a branched or unbranched  $C_8$ - $C_{18}$  alkyl or alkenyl group (except the fuel compositions of Claim 9 and 16, in which  $R^1$  is straight-chain or branched  $C_{13}$ -alkyl).

As stated at page 3, line 45 to page 4, line 5 of the present specification, the propoxylate additives of the claimed fuel compositions reduce intake valve deposits "substantially better than the corresponding shorter-chain or longer-chain propoxylates. This is surprising in particular because it has been assumed to date that the compounds of the type used are suitable only as carrier oils for fuel compositions but carrier oils per se do not have a satisfactory cleaning effect in the intake system." Thus, the claimed propoxylate additive of Formula I has superior properties to propoxylates having shorter or longer chains. The improved properties provided by the propoxylate additive of the present invention are also shown in Table 1 and 2, pages 14 and 15 of the present specification. A tridecanol end-capped propoxylate having 15 propylene oxide units (i.e.,  $n = 15$ ) reduces intake valve deposits significantly compared to otherwise identical propoxylates having ten propylene units (i.e.,  $n = 10$ ), 20 propylene oxide units, ( $n=20$ ), or 25 propylene oxide units (i.e.,  $n = 25$ ). Thus, the claimed fuel composition, having a propoxylate additive of Formula I, has

significantly improved properties compared to otherwise identical propoxylates in which the number of propylene oxides repeat units is outside the claimed range.

Moreover, Applicants respectfully submit that one of ordinary skill in the art of fuel additives would reasonably recognize that similar improved results would be provided by propoxylates according to the present invention, in which the R<sup>1</sup> group and the value of n are varied within the claimed ranges, but are somewhat different from those exemplified in Tables 1 and 2 of the present specification.

The rejections of the claims under 35 U.S.C. § 102(b) and 103(a) over Thomas, Daley, Aiello, the combination of Daley and Thomas, the combination of Aiello and Thomas, and the combination of Polss and Thomas are respectfully traversed. None of the applied references describe or suggest the claimed propoxylate additives having 14-18 propylene oxide units and a group R<sup>1</sup> which is a C<sub>8</sub> to C<sub>18</sub> alkyl or alkenyl group.

In regard to the rejections under 35 U.S.C. § 102(b), the Examiner argues that the broad disclosures of Thomas, Daley, and Aiello anticipate the propoxylates of the claimed invention. Applicants respectfully disagree. In order to anticipate the claims, the prior art must expressly or implicitly describe every limitation of the claimed invention. M.P.E.P 2131. However, none of the applied references describe, either expressly or implicitly, a propoxylate additive having 14-18 propylene oxide repeat units *and* a single end-group which is a C<sub>8-18</sub> alkyl or alkenyl group. For example, Thomas describes polyethers (propylene oxides and/or butylenes oxides; page 3, line 41) having a number of repeat units ranging from 8-30 (page 3, line 45). However, Thomas fails to describe a single propoxylate having a number of repeat units within the claimed range. For example, the polyethers of Examples 2, 4, 6, and 7 of Thomas are not propoxylates, but rather are “butoxylates” (i.e., butylene oxides) having 22 repeat units (footnote “e” of the Table at page 5 of Thomas). Similarly, Daley describes fuel additive compositions in which the number of oxyalkylene units ranges

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from 4 to about 40 units (page 5, line 22), but fails to describe a propoxylate having 14-18 repeat units), and Aiello describes a polyoxypropylene glycol monoether of average molecular weight 14,000 (col. 8, lines 64-65). However, the number of propylene oxide repeat units of the polyoxypropylene of Aiello must be approximately 20, since a C<sub>15</sub> alcohol end group has a molecular weight of approximately 221 g/mol, and propylene oxide repeat units have a molecular weight of approximately 58 g/mol (see calculations at page 5, paragraph 2 of the Amendment and Request for Reconsideration filed April 8, 2003). Thus, neither Thomas, Daley, nor Aiello expressly or implicitly describe the claimed propoxylate additive. Accordingly, Applicants respectfully request that the rejections be withdrawn.

In regard to the rejections under 35 U.S.C. § 103(a), the Examiner argues that the cited references, either individually or in combination, suggest the claimed propoxylate additives because they broadly describe a genus of propoxylates encompassing the claimed propoxylates. Furthermore, the Examiner suggests that the data of Tables 1 and 2 of the specification are insufficient to establish that the entire range of propoxylates claimed would have the same improved results shown by propoxylates having a C<sub>13</sub> end-group and 15 repeat units. Applicants respectfully disagree

As discussed above, the specification expressly states that the claimed propoxylate additives are “substantially better than the corresponding shorter-chain or longer-chain propoxylates” at reducing intake valve deposits. The Examiner has provided no evidence of record to suggest that this statement of the specification is incorrect. Rather, the Examiner has merely proffered her opinion, unsupported by extrinsic evidence, data, or an affidavit describing the basis of her personal knowledge, that the above-noted express statement of the specification is incorrect. M.P.E.P. §§ 2144.01-2144.03. Thus, the Examiner has failed to properly support a *prima facie* case of obviousness. Accordingly, the applied references, either individually or in combination, fail to suggest the claimed invention.

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Furthermore, as discussed above, one would not reasonably expect, for example, a propoxylate have a C<sub>8</sub> end-group or a C<sub>18</sub> end-group to have substantially different properties from a propoxylate having a C<sub>13</sub> end-group. Thus, Applicants respectfully submit that the data of Tables 1 and 2 of the present specification are representative of the improved results which would reasonably be provided by the full range of end-groups claimed. Similarly, the above-noted statement of the specification strongly indicates that one would reasonably expect improved results for the entire range of propoxylates claimed, provided the number of repeat units falls within the claimed range. Thus, the improved results shown by the data of Tables 1 and 2 reasonably indicate that the entire range of the claimed propoxylate additives would also provide significantly improved results compared to the propoxylates of the cited prior art references. Accordingly, none of the applied references, either individually or in combination, suggest the claimed invention.

The rejection of Claims 10 and 13 under 35 U.S.C. §112, second paragraph is obviated by appropriate amendment. Claim 13 has been cancelled without prejudice.

Accordingly, and for the reasons stated above, Applicants respectfully request that the rejections be withdrawn.

Applicants respectfully request that the Examiner acknowledge that the references cited in the **Information Disclosure Statement**, filed in the above-identified application on **August 6, 2003**, have been considered. For the Examiner's convenience a copy of Form PTO 1449 as filed on August 6, 2003, is attached herewith.

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Applicants submit that the application is now in condition for allowance, and early notification thereof is earnestly solicited.

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